UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,238	05/23/2007	Patrik Salmela	3772-34	6961

23117   7590   12/07/2009
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER
DOAN, TRANG T

ART UNIT	PAPER NUMBER
2431	

MAIL DATE	DELIVERY MODE
12/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _14 August 2006_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _27-55_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _27-55_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _08/14/2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _08/14/2006_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 27-55 are pending for consideration.

Information Disclosure Statement

2.   The information disclosure statement filed on 08/14/2006 fails to comply

with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent

document; each non-patent literature publication or that portion which caused it

to be listed; and all other information or that portion which caused it to be listed.

It has been placed in the application file, but the information referred to therein

has not been considered.

Drawings

3.   Figures 1-4 should be designated by a legend such as --Prior Art--

because only that which is old is illustrated. See MPEP § 608.02(g). Corrected

drawings in compliance with 37 CFR 1.121 (d) are required in reply to the Office

action to avoid abandonment of the application. The replacement sheet(s)

should be labeled "Replacement Sheet" in the page header (as per 37 CFR

1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes

are not accepted by the examiner, the applicant will be notified and informed of

any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Objections

4.   Claims 28-44 are objected to because of the following informalities:

- In line 1 of claims 28-44, the phrase "A method" should be changed to

    "The method".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 27-44 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

7.   Claim 27 recites the limitation "returning from the proxy" in lines 8, 10, 12,

and 14. There is insufficient antecedent basis for this limitation in the claim.

8.   The dependent claims are depended on the rejected base claim, and are

rejected for the same rationales.

Claim Rejections - 35 USC § 101

9.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent
> therefor, subject to the conditions and requirements of this title.

10.   Claims 47, 49, and 53-55 are rejected under 35 U.S.C. 101 because the

claimed invention is directed to non-statutory subject matter. The "HIP proxy"

claims do not fall within any of the four statutory classes of an invention as

defined in 35 USC 101.

11.   Claims 48-55 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. With respect to claims 48-

55, each of the claims is directed to a program for performing specific method

steps. Computer program claims do not fall within any of the four statutory

classes of an invention as defined in 35 USC 101.

12.   Claims 50-55 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. For claims 50-55,

applicant's "carrier medium" is not limited to embodiments that fall within a

statutory category of an invention (see paragraph [0066] (The operating program

may be carried on a carrier medium, which may be a transmission medium or a

storage medium).

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

14.   Claims 27-28, 32-34, and 36-55 are rejected under 35 U.S.C. 102(a) as

being anticipated by Eggert (Reference U: HIP Rendezvous Mechanisms)

(hereinafter Eggert).

Regarding claim 27, Eggert discloses a method of at least partially

securing communications, via a Host Identity Protocol, HIP, proxy, between a

first host which is not HIP enabled and a second host which is HIP enabled

(Eggert: see figure 4 on page 12), the method comprising: sending a query from

the first host to resolve the Internet Protocol, IP, address of the second host

(Eggert: see figure 4; page 12, section 4.2, in step #3: I initiates a transport-

layer...; and page 10, second paragraph: Without Rendezvous Servers,

communication between HIP and non-HIP nodes remains identical to the current

Internet. Transport-layer protocols bind directly to IP addresses. When IP

addresses change, due to mobility or other reasons, transport-layer connections

break); in response to said query, retrieving an IP address and Host Identity Tag,

HIT, associated with the second host (Eggert: figure 4, step # 4); in response to

said retrieval, returning from the proxy a substitute IP address associated with

the second host (Eggert: see page 10, third paragraph; and page 11, last

paragraph: non-HIP node I...using the IP addresses IP(RVS) obtained from the

DNS); maintaining at the proxy a mapping between the substitute IP address, the

retrieved IP address and the retrieved HIT (Eggert: page 11, section 4.1; and

page 3, third paragraph: Transparent communication between HIP and non-HIP

nodes places additional restrictions on the lookup mechanisms. For example,

non-HIP nodes expect DNS lookups to return IP addresses, requiring the HI->IP

mapping (or a representation thereof) to remain in the DNS. Section 4 discusses

communication between HIP and non-HIP nodes and describes different

alternatives that support it); and upon receipt of a session initiation message at

the proxy from the first host including as its destination address the substitute IP

address, using the mapping to negotiate a HIP connection between the proxy

and the second host (Eggert: see figure 4, step # 5; page 11, last paragraph: The

Rendezvous Server RVS must then transparently relay the communication to

one of R's current IP addresses IP(R) in step # 5; page 12, first paragraph: End-

to-end communication…; and page 2, sixth paragraph: Without HIP, nodes

establish transport-layer connections by first looking up the fully-qualified domain

name (FQDN) of a peer in the DNS. A successful DNS lookup returns the peer's

IP addresses. A node uses one of the returned IP addresses to initiate transport-

layer communication with a peer node).

Regarding claim 28, Eggert further discloses comprising looking up the

retrieved IP address and the retrieved HIT from the mapping based on the

substitute IP address in the session initiation message, and performing the HIP

negotiation using the retrieved IP address and the retrieved HIT to locate and

identify the Responder in the HIP negotiation together with an IP address and

HIT of the proxy to locate and identify the Initiator in the HIP negotiation (Eggert:

see figure 4; and page 12, first paragraph: End-to-end communication…).

Regarding claim 32, Eggert further discloses wherein the retrieved IP

address is the actual IP address of the second host (Eggert: See figure 4; and

page 2, sixth paragraph: Without HIP, nodes establish transport-layer

connections by first looking up the fully-qualified domain name (FQDN) of a peer

in the DNS. A successful DNS lookup returns the peer's IP addresses. A node

uses one of the returned IP addresses to initiate transport-layer communication

with a peer node).

Regarding claim 33, Eggert further discloses comprising generating the

substitute IP address at the proxy (Eggert: see figure 4, step # 4).

Regarding claim 34, Eggert further discloses comprising, for an outgoing

message received at the proxy after the HIP connection has been established

including as its destination address the substitute IP address, using the mapping

to route the message over the HIP connection to the second host (Eggert: see

figure 4, step # 5).

Regarding claim 36, Eggert further discloses comprising completing the

establishment of communications between the first and second hosts by

forwarding the session initiation message from the proxy to the second host over

the HIP connection, replying with a session acknowledgment message from the

second host to the proxy over the HIP connection, and routing the session

acknowledgment message to the first host (Eggert: page 12, first paragraph; and

page 2, sixth paragraph: Without HIP, nodes establish transport-layer

connections by first looking up the fully-qualified domain name (FQDN) of a peer

in the DNS. A successful DNS lookup returns the peer's IP addresses. A node

uses one of the returned IP addresses to initiate transport-layer communication

with a peer node).

Regarding claim 37, Eggert further discloses wherein the session

acknowledgment message is a TCP ACK message (Eggert: page 8, figure 3).

Regarding claim 38, Eggert further discloses wherein the session initiation

message is a TCP SYN message (Eggert: see page 16; and page 2, sixth

paragraph: Without HIP, nodes establish transport-layer connections by first

looking up the fully-qualified domain name (FQDN) of a peer in the DNS. A

successful DNS lookup returns the peer's IP addresses. A node uses one of the

returned IP addresses to initiate transport-layer communication with a peer

node).

Regarding claim 39, Eggert further discloses comprising, for an incoming

message received at the proxy from the second host over the established HIP

connection, using a NAT function of the proxy to route the message to the

appropriate destination host (Eggert: page 17, section 5.3 Tunneling).

Regarding claim 40, Eggert further discloses wherein the query is a DNS

query (Eggert: see figure 4; page 12, section 4.2, in step #3: I initiates a

transport-layer...).

Regarding claim 41, Eggert further discloses wherein the proxy performs

the step of retrieving the IP address and HIT associated with the second host

(Eggert: see figure 4; page 12, section 4.2, in step #3: I initiates a transport-

layer...).

Regarding claim 42, Eggert further discloses wherein the proxy retrieves

the IP address and HIT associated with the second host from an external DNS

server (Eggert: see figure 4, step # 5; page 11, last paragraph: The Rendezvous

Server RVS; and page 2, sixth paragraph: Without HIP, nodes establish

transport-layer connections by first looking up the fully-qualified domain name

(FQDN) of a peer in the DNS. A successful DNS lookup returns the peer's IP

addresses. A node uses one of the returned IP addresses to initiate transport-

layer communication with a peer node).

Regarding claim 43, Eggert further discloses wherein the proxy retrieves

the IP address and HIT associated with the second host from an internal DNS

server (Eggert: page 11, last paragraph: The Rendezvous Server RVS).

Regarding claim 44, Eggert further discloses wherein the proxy intercepts

the query from the first host (Eggert: see figure 4, step # 5).

Regarding claims 45-47, these claims have limitations that is similar to those of claim 1, thus they are rejected with the same rationale applied against claim 1 above.

Regarding claim 48, Eggert further discloses a computer program which, when run on a HIP proxy, causes the proxy to carry out a method as claimed in claim 46 (Eggert: see page 10, fourth paragraph: The HIP architecture document [2] discusses the role of Rendezvous Servers in HIP communication. However, it does not currently describe the details of how Rendezvous Server relay traffic between HIP and non-HIP nodes. The remainder of this section presents this aspect of Rendezvous Servers).

Regarding claim 49, Eggert further discloses a computer program which, when loaded into a HIP proxy, causes the proxy to become one as claimed in claim 47 (Eggert: see page 10, third paragraph and fourth paragraph).

Regarding claim 50, Eggert further discloses a computer program as claimed in claim 48, carried on a carrier medium (Eggert: page 9, first paragraph: This approach changes...).

Regarding claim 51, Eggert further discloses a computer program as claimed in claim 50, wherein the carrier medium is a transmission medium (Eggert: Eggert: page 17, section 5.3 Tunneling).

Regarding claim 52, Eggert further discloses a computer program as claimed in claim 50, wherein the carrier medium is a storage medium (Eggert: page 9, first paragraph: This approach changes...).

Regarding claim 53, Eggert further discloses a computer program as claimed in claim 49, carried on a carrier medium (Eggert: page 9, first paragraph: This approach changes...).

Regarding claim 54, Eggert further discloses a computer program as claimed in claim 53, wherein the carrier medium is a transmission medium (Eggert: page 17, section 5.3 Tunneling).

Regarding claim 55, Eggert further discloses a computer program as claimed in claim 53, wherein the carrier medium is a storage medium (Eggert: page 9, first paragraph: This approach changes...).

Claim Rejections - 35 USC § 103

15.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16.   Claims 29-31 and 35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Eggert in view of Nikander (Reference V: End-Host Mobility

and Multi-homing with Host Identity Protocol) (hereinafter Nikander).

        Regarding claim 29, Eggert does not disclose wherein the retrieved IP

address is the IP address of a Forwarding Agent used by the second host, and

further comprising initiating the HIP negotiation between the proxy and the

second host by sending the initial HIP negotiation packet to the Forwarding

Agent. However, Nikander discloses wherein the retrieved IP address is the IP

address of a Forwarding Agent used by the second host, and further comprising

initiating the HIP negotiation between the proxy and the second host by sending

the initial HIP negotiation packet to the Forwarding Agent (Nikander: page 10;

section 4.4 Forwarding Agents; page 12, section 5. Protocol Overview).

Therefore, It would have been obvious to a person skilled art at the time the

invention was made to have included in Eggert the feature of Nikander as

discussed above because HIP node may use the Forwarding Agent for acting as

a gateway when peer node wants to use a IP protocol version that the HIP node

behind the Forwarding Agent does not directly support (Nikander: page 10,

section 4.4 Forwarding Agents).

        Regarding claim 30, Eggert as modified discloses comprising, following

receipt of the actual IP address of the second host at the proxy during the HIP

negotiation, including the actual IP address in the mapping maintained at the

proxy (Nikander: page 4, first paragraph: layer, and introduces...). The same motivation was utilized in claim 29 applied equally well to claim 30.

Regarding claim 31, Eggert as modified discloses wherein the retrieved IP address is replaced in the mapping by the actual IP address following its receipt at the proxy (Nikander: pages 6-7, section 3.1 End-host mobility; and page 10, section 4.4 Forwarding Agents). The same motivation was utilized in claim 29 applied equally well to claim 31.

Regarding claim 35, Eggert as modified discloses wherein the retrieved IP address is the IP address of a Forwarding Agent used by the second host, and further comprising: initiating the HIP negotiation between the proxy and the second host by sending the initial HIP negotiation packet to the Forwarding Agent (Nikander: page 10; section 4.4 Forwarding Agents; page 12, section 5. Protocol Overview); following receipt of the actual IP address of the second host at the proxy during the HIP negotiation, including the actual IP address in the mapping maintained at the proxy (Nikander: pages 6-7, section 3.1 End-host mobility; and page 10, section 4.4 Forwarding Agents); looking up the actual IP address and the retrieved HIT from the mapping based on the substitute IP address in the outgoing message (Nikander: pages 6-7, section 3.1 End-host mobility); routing the outgoing message to the second host using the actual IP address and the retrieved HIT to locate and identify the destination of the message (page 10, section 4.4 Forwarding Agents); and using an IP address and

HIT of the proxy to locate and identify the source of the message (Nikander:

pages 6-7, section 3.1 End-host mobility; and page 10, section 4.4 Forwarding

Agents). The same motivation was utilized in claim 29 applied equally well to

claim 35.

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to TRANG DOAN whose telephone number is

(571)272-0740. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589.

The fax phone number for the organization where this application or proceeding

is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Trang Doan/
Examiner, Art Unit 2431
/Syed Zia/
Primary Examiner, Art Unit 2431